FIG. 1A

```
Ground Squirrel   mylfhlclvf acvpcptvqa sklclgwlwd

                  1
HBc AYW           mdidpykefg atvellsflp sdffpsvrdl ldtasalyre
HBc ADW           mdidpykefg atvellsflp sdffpsvrdl ldtasalyre
HBc ADW2          mdidpykefg atvellsflp sdffpsvrdl ldtasalyre
HBc ADYW          mdidpykefg atvellsflp sdffpsvrdl ldtaaalyrd
Woodchuck         mdidpykefg ssyqllnflp ldffpdlnal vdtatalyee
Ground Squirrel   mdidpykefg ssyqllnflp ldffpdlnal vdtaaalyee

                  41
HBc AYW           alespehcsp hhtalrqail cwgelmtlat wvgvnledpa
HBc ADW           alespehcsp hhtalrqail cwgelmtlat wvgnnlqdpa
HBc ADW2          alespehcsp hhtalrqail cwgelmtlat wvgnnledpa
HBc ADYW          alespehcsp hhtalrqail cwgdlmtlat wvgtnledpa
Woodchuck         eltgrehcsp hhtairqalv cwdeltklia wmssnitseq
Ground Squirrel   eltgrehcsp hhtairqalv cweeltrlit wmsentteev
```

FIG.1B

```
                  81
HBc AYW             srdlvvsyvn tnmglkfrql lwfhiscltf gretvieylv
HBc ADW             srdlvvnyvn tnmglkirql lwfhiscltf gretvleylv
HBc ADW2            srdlvvnyvn tnvglkirql lwfhiscltf gretvleylv
HBc ADYW            srdlvvsyvn tnvglkfrql lwfhiscltf gretvleylv
Woodchuck           vrtiivnhvn dtwglkvrqs lwfhlscltf gqhtvqeflv
Ground Squirrel     rriivdhvnn twglkvrqtl wfhlscltfg qhtvqeflvs

                 121
HBc AYW             sfgvwirtpp ayrppnapil stlpettvvr rrgrsprrrt
HBc ADW             sfgvwirtpp ayrppnapil stlpettvvr rrdrgrsprr
HBc ADW2            sfgvwirtpp ayrppnapil stlpettvvr rrdrgrsprr
HBc ADYW            sfgvwirtpp ayrppnapil stlpettvvr rrgrsprrrt
Woodchuck           sfgvwirtpa pyrppnapil stlpehtvir rrggarasrs
Ground Squirrel     fgvwirtpap yrppnapils tlpehtvirr rggsraarsp

                 161
HBc AYW             psprrrrsqs prrrrsqsre sqc
HBc ADW             rtpsprrrrs qsprrrrsqs resqc
HBc ADW2            rtpsprrrps qsprrrrsqs resqc
HBc ADYW            psprrrrsqs prrrrsqsre sqc
Woodchuck           prrrtpsprr rrsqsprrrr sqc
Ground Squirrel     rrrtpsprrr rsqsprrrrs qspasnc
```

FIG. 2

HindIII

pKK223-3

TTCACACAGGAAACAGAATTCCCGGGGATCCGTCGACCTGCAGCCAAG
CTT

pKK223-3N TTCACATAAGGAGGAAAAAAccatggGATCCG--
----------AAGCTT

NcoI

Fig. 3

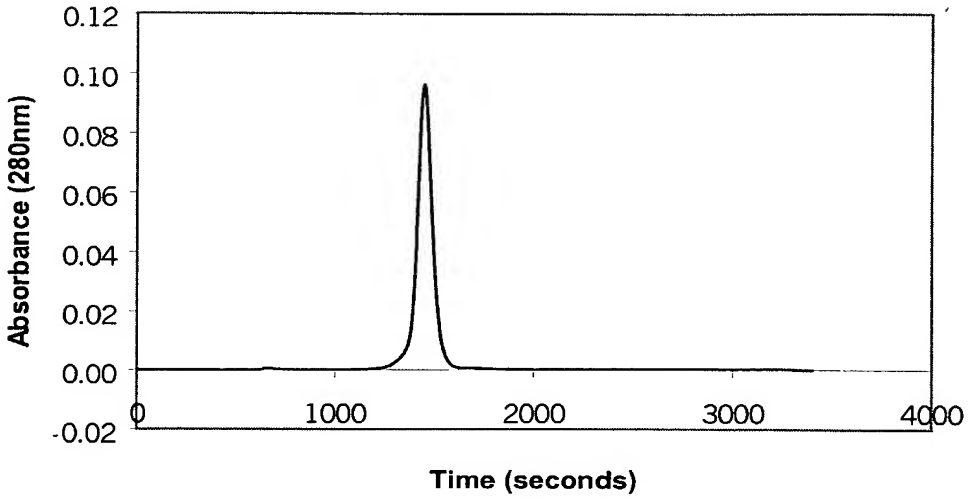

0.12
0.10
0.08
0.06
0.04
0.02
0.00
-0.02
Absorbance (280nm)
0
1000
2000
3000
4000
Time (seconds)

Fig. 4

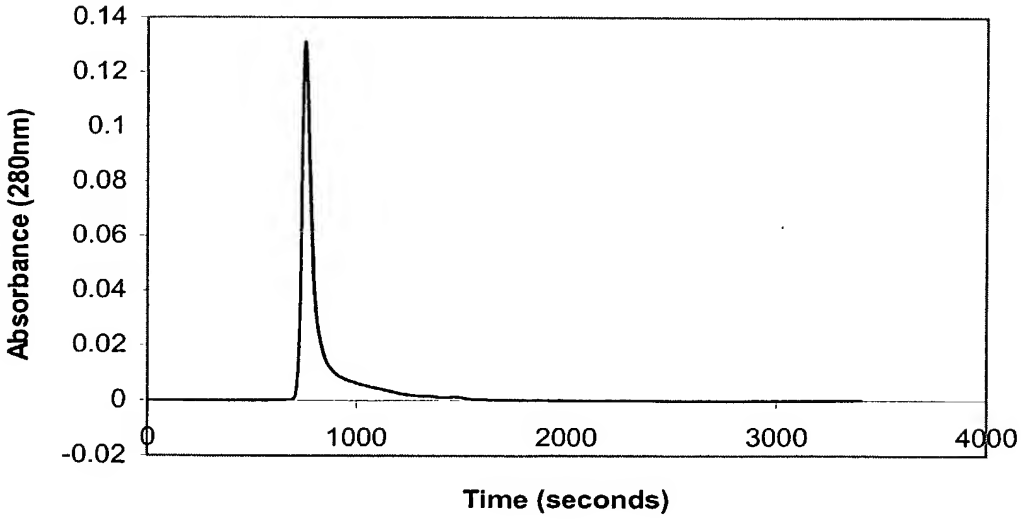

0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
-0.02
Absorbance (280nm)
0
1000
2000
3000
4000
Time (seconds)

Fig. 5

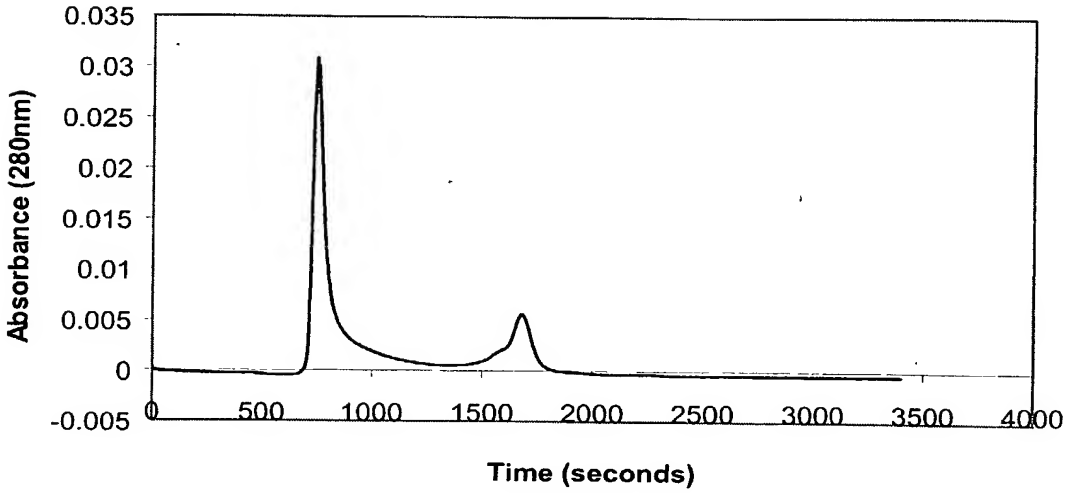

0.035
0.03
0.025
0.02
0.015
0.01
0.005
0
-0.005
Absorbance (280nm)
0
500
1000
1500
2000
2500
3000
3500
4000
Time (seconds)

Fig. 6

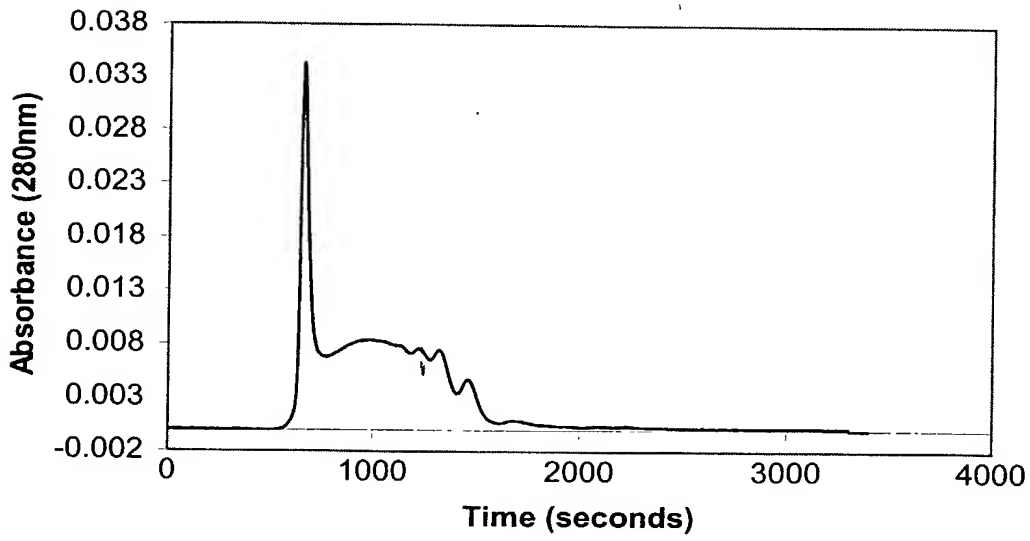

0.038
0.033
0.028
0.023
0.018
0.013
0.008
0.003
-0.002
Absorbance (280nm)
0
1000
2000
3000
4000
Time (seconds)

Fig. 7

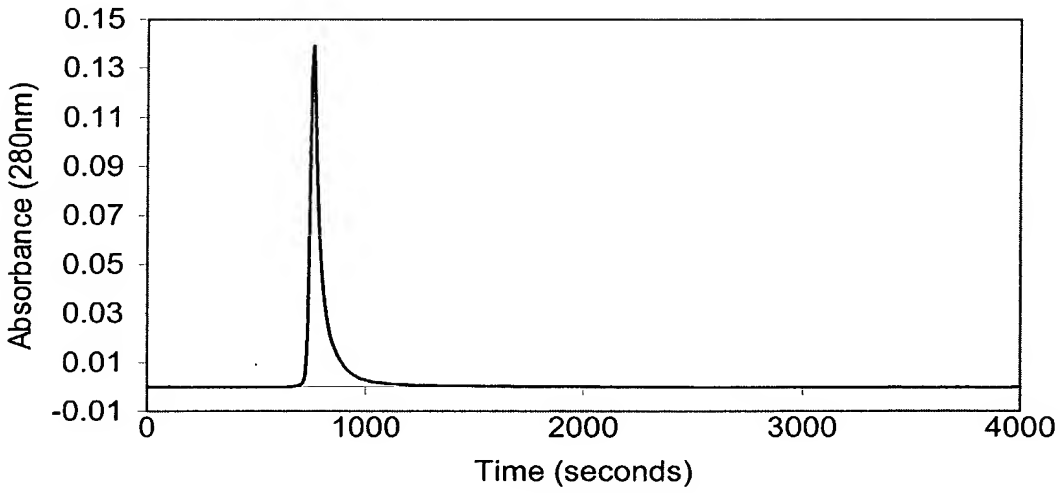

0.15
0.13
0.11
0.09
0.07
0.05
0.03
0.01
-0.01
Absorbance (280nm)
0
1000
2000
3000
4000
Time (seconds)

Fig. 8

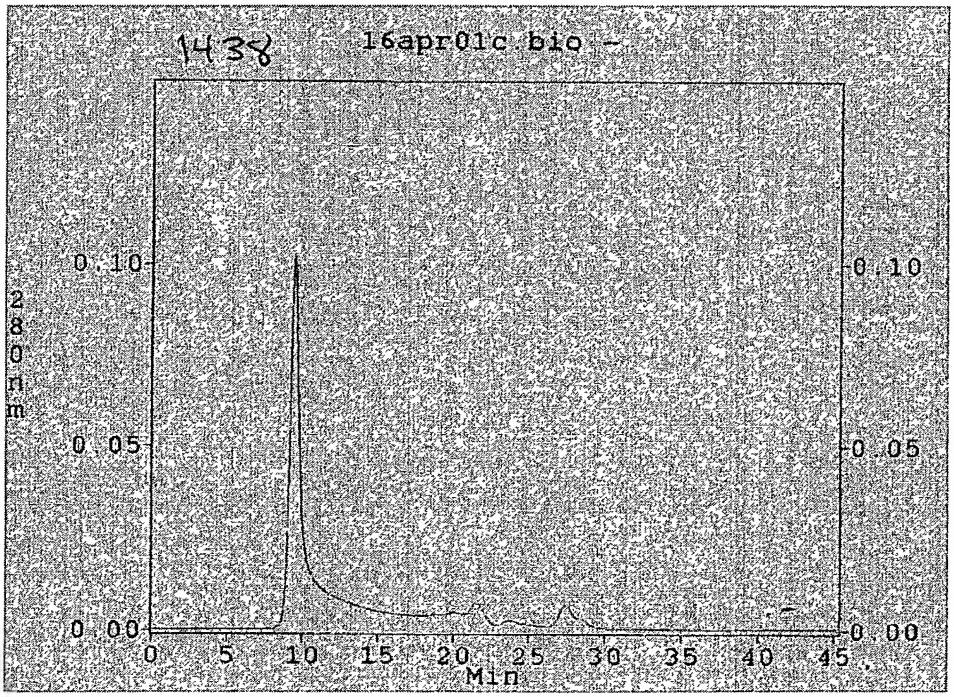

1438
16apr01c bio -
0.10
0.05
0.00
280nm
0.10
0.05
0.00
0
5
10
15
20
25
30
35
40
45
Min

Fig. 9

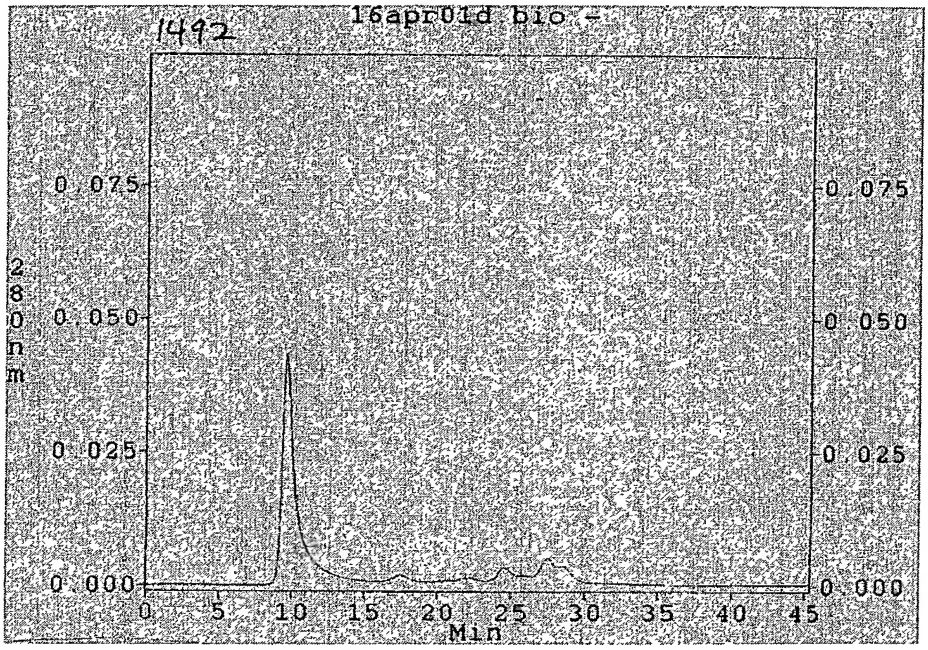

1492
16apr01d bio -
0.075
0.050
0.025
0.000
280 nm
0
5
10
15
20
25
30
35
40
45
Min

Fig. 10

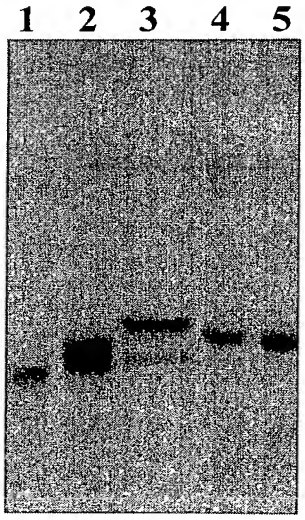
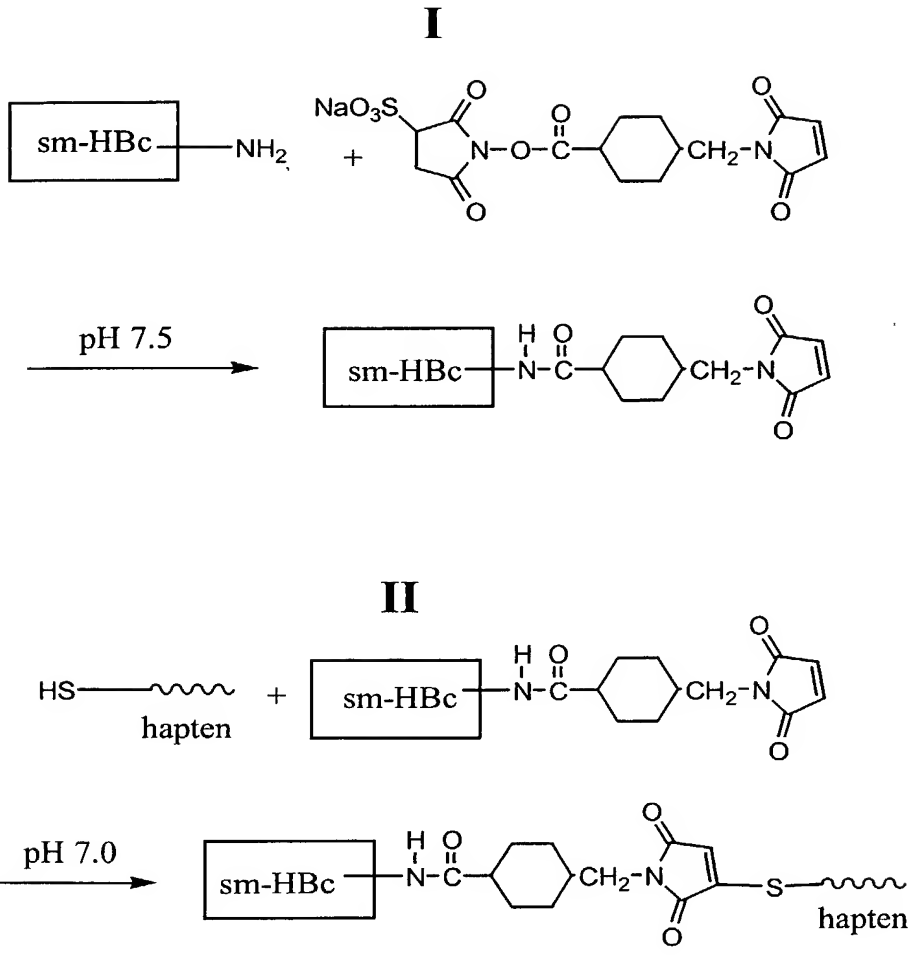

1 2 3 4 5

FIG. 11

Scheme 1